

Release notes for ENDF/B Development n-033_As_075
evaluation

ENDF
B-VII.**dev**

April 26, 2017

- **psyche** Warnings:

1. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 75. L = 0 / AT RESONANCE ENERGY 3.30800E+03 EV. THE GAMMA WIDTH 8.89999E-02 DEVIATES TOO MUCH FROM THE AVERAGE 3.19205E-01 (0): Gamma width

```
FILE 2
SECTION 151
ISOTOPE MASS = 75. L = 0
AT RESONANCE ENERGY 3.30800E+03 EV. THE GAMMA WIDTH 8.89999E-02 DEVIATES TOO MUCH FROM THE AV
```

2. Strength function in URR not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 75. L = 1 / STRENGTH FUNCTION IS 5.46996E-06 / STRENGTH FUNCTION 5.46996E-06 / LIES OUTSIDE LIMITS 1.00000E-05 TO 2.00000E-04 (0): URR str. ftn.

```
FILE 2
SECTION 151
ISOTOPE MASS = 75. L = 1
STRENGTH FUNCTION IS 5.46996E-06
STRENGTH FUNCTION 5.46996E-06
```

... [1 more lines]

3. Non-threshold reaction with Q value differing from PSYCHE's expectations
FILE 3 / SECTION 107 / THE CALCULATED Q 1.35302E+06 DISSAGREES WITH THE GIVEN Q 1.20157E+06 (0): Iffy Q

```
FILE 3
SECTION 107
THE CALCULATED Q 1.35302E+06 DISSAGREES WITH THE GIVEN Q 1.20157E+06
```

- **recent** Warnings:

1. Statistical weight of certain L values were incorrect
0: RRR goof (a)

```
Calculate Cross Sections from Resonance Parameters (RECENT 2015-1)
=====
Retrieval Criteria----- MAT
File 2 Mimimum Cross Section- 1.0000E-10 (Standard Option)
Reactions with No Background- Output (Resonance Contribution)
... [697 more lines]
```

- **fudge-4.0** Warnings:

1. Missing a channel with a particular angular momenta combination
resonances / resolved (Error # 1): missingResonanceChannel

```
WARNING: Missing a channel with angular momenta combination L = 0, J = 0.0 and S = 0.0 for "capture"
WARNING: Missing a channel with angular momenta combination L = 1, J = 1.0 and S = 0.0 for "capture"
WARNING: Missing a channel with angular momenta combination L = 1, J = 1.0 and S = 1.0 for "capture"
WARNING: Missing a channel with angular momenta combination L = 1, J = 2.0 and S = 1.0 for "capture"
```

• fudge-4.0 Errors:

1. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 0): Level mismatch (d)

WARNING: MT602 MF12 level energy 139690. eV differs from MF3 value 139690. eV. Setting to MF3 value.
2. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 1): Level mismatch (d)

WARNING: MT603 MF12 level energy 192180. eV differs from MF3 value 192180. eV. Setting to MF3 value.
3. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 2): Level mismatch (d)

WARNING: MT604 MF12 level energy 199890. eV differs from MF3 value 199890. eV. Setting to MF3 value.
4. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 3): Level mismatch (d)

WARNING: MT605 MF12 level energy 253100. eV differs from MF3 value 253100. eV. Setting to MF3 value.
5. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 4): Level mismatch (d)

WARNING: MT606 MF12 level energy 316850. eV differs from MF3 value 316850. eV. Setting to MF3 value.
6. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 5): Level mismatch (d)

WARNING: MT607 MF12 level energy 457050. eV differs from MF3 value 457050. eV. Setting to MF3 value.
7. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 6): Level mismatch (d)

WARNING: MT610 MF12 level energy 6.51e5 eV differs from MF3 value 650999.8 eV. Setting to MF3 value.
8. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 7): Level mismatch (d)

WARNING: MT611 MF12 level energy 673650. eV differs from MF3 value 673649.8 eV. Setting to MF3 value.
9. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 8): Level mismatch (d)

WARNING: MT612 MF12 level energy 762100. eV differs from MF3 value 762099.8 eV. Setting to MF3 value.
10. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 9): Level mismatch (d)

WARNING: MT613 MF12 level energy 885460. eV differs from MF3 value 885459.8 eV. Setting to MF3 value.
11. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 10): Level mismatch (d)

WARNING: MT614 MF12 level energy 901300. eV differs from MF3 value 901299.8 eV. Setting to MF3 value.

12. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 11): Level mismatch (d)

WARNING: MT615 MF12 level energy 947200. eV differs from MF3 value 947199.8 eV. Setting to MF3 value.
13. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 12): Level mismatch (d)

WARNING: MT616 MF12 level energy 986800. eV differs from MF3 value 986799.8 eV. Setting to MF3 value.
14. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 13): Level mismatch (d)

WARNING: MT617 MF12 level energy 1062200. eV differs from MF3 value 1062199.8 eV. Setting to MF3 value.
15. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 14): Level mismatch (d)

WARNING: MT618 MF12 level energy 1080600. eV differs from MF3 value 1080599.8 eV. Setting to MF3 value.
16. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 15): Level mismatch (d)

WARNING: MT619 MF12 level energy 1.128e6 eV differs from MF3 value 1127999.8 eV. Setting to MF3 value.
17. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 16): Level mismatch (d)

WARNING: MT620 MF12 level energy 1136900. eV differs from MF3 value 1136899.8 eV. Setting to MF3 value.
18. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 17): Level mismatch (d)

WARNING: MT621 MF12 level energy 1.19e6 eV differs from MF3 value 1189999.8 eV. Setting to MF3 value.
19. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 18): Level mismatch (d)

WARNING: MT622 MF12 level energy 1222900. eV differs from MF3 value 1222899.8 eV. Setting to MF3 value.
20. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 19): Level mismatch (d)

WARNING: MT623 MF12 level energy 1240730. eV differs from MF3 value 1240729.8 eV. Setting to MF3 value.
21. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 20): Level mismatch (d)

WARNING: MT624 MF12 level energy 1.257e6 eV differs from MF3 value 1256999.8 eV. Setting to MF3 value.
22. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033_As.075.endf (Error # 21): Level mismatch (d)

WARNING: MT807 MF12 level energy 208450. eV differs from MF3 value 208449.7 eV. Setting to MF3 value.

23. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033-As.075.endf (Error # 22): Level mismatch (d)

WARNING: MT808 MF12 level energy 228860. eV differs from MF3 value 228859.7 eV. Setting to MF3 value.

24. Level energy in gamma data doesn't match level energy in cross section data
Reading ENDF file: ../n-033-As.075.endf (Error # 23): Level mismatch (d)

WARNING: MT809 MF12 level energy 248940. eV differs from MF3 value 248939.7 eV. Setting to MF3 value.

25. The spin statistical weights are off, indicating missing channels
resonances / resolved / MultiLevel_BreitWigner (Error # 0): badSpinStatisticalWeights

WARNING: The spin statistical weights for L=1 sums to 2.0, but should sum to 3.0. You have too few channels for re

26. Calculated and tabulated Q values disagree.
reaction label 34: n + H1 + Ge74 + gamma (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -6921639.6902771 eV vs -6898432. eV!

27. If an outgoing energy distribution ends with more than one energy with probability=0,
proper unitbase treatment is unclear. Distribution should end with exactly one P=0
point.
reaction label 34: n + H1 + Ge74 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): extraOutgoingEnergy

WARNING: Extra zero-probability outgoing energies found at incident energy 9.e6 eV

WARNING: Extra zero-probability outgoing energies found at incident energy 1.e7 eV

WARNING: Extra zero-probability outgoing energies found at incident energy 1.1e7 eV

WARNING: Extra zero-probability outgoing energies found at incident energy 1.2e7 eV

... plus 8 more instances of this message

28. Calculated and tabulated Q values disagree.
reaction label 35: H1 + Ge75 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -344682.1393737793 eV vs -393117.2 eV!

29. Calculated and tabulated Q values disagree.
reaction label 36: H1 + Ge75_e1 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -406572.1393737793 eV vs -455007.2 eV!

30. Calculated and tabulated Q values disagree.
reaction label 37: H1 + Ge75_e2 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -484372.1393737793 eV vs -532807.2 eV!

31. Calculated and tabulated Q values disagree.
reaction label 38: H1 + Ge75_e3 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -536862.1393737793 eV vs -585297.2 eV!

32. Calculated and tabulated Q values disagree.
reaction label 39: H1 + Ge75_e4 (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -544572.1393737793 eV vs -593007.2 eV!

33. Calculated and tabulated Q values disagree.
reaction label 40: H1 + Ge75_e5 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -597782.1393737793 eV vs -646217.2 eV!
34. Calculated and tabulated Q values disagree.
reaction label 41: H1 + Ge75_e6 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -661532.1393737793 eV vs -709967.2 eV!
35. Calculated and tabulated Q values disagree.
reaction label 42: H1 + Ge75_e7 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -801732.1393737793 eV vs -850167.2 eV!
36. Calculated and tabulated Q values disagree.
reaction label 43: H1 + Ge75_e8 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -919372.1393737793 eV vs -967807.2 eV!
37. Calculated and tabulated Q values disagree.
reaction label 44: H1 + Ge75_e9 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -929092.1393737793 eV vs -977527.2 eV!
38. Calculated and tabulated Q values disagree.
reaction label 45: H1 + Ge75_e10 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -995681.9393768311 eV vs -1044117. eV!
39. Calculated and tabulated Q values disagree.
reaction label 46: H1 + Ge75_e11 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1018331.939376831 eV vs -1066767. eV!
40. Calculated and tabulated Q values disagree.
reaction label 47: H1 + Ge75_e12 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1106781.939376831 eV vs -1155217. eV!
41. Calculated and tabulated Q values disagree.
reaction label 48: H1 + Ge75_e13 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1230141.939376831 eV vs -1278577. eV!
42. Calculated and tabulated Q values disagree.
reaction label 49: H1 + Ge75_e14 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1245981.939376831 eV vs -1294417. eV!
43. Calculated and tabulated Q values disagree.
reaction label 50: H1 + Ge75_e15 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1291881.939376831 eV vs -1340317. eV!

44. Calculated and tabulated Q values disagree.
reaction label 51: H1 + Ge75_e16 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1331481.939376831 eV vs -1379917. eV!
45. Calculated and tabulated Q values disagree.
reaction label 52: H1 + Ge75_e17 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1406881.939376831 eV vs -1455317. eV!
46. Calculated and tabulated Q values disagree.
reaction label 53: H1 + Ge75_e18 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1425281.939376831 eV vs -1473717. eV!
47. Calculated and tabulated Q values disagree.
reaction label 54: H1 + Ge75_e19 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1472681.939376831 eV vs -1521117. eV!
48. Calculated and tabulated Q values disagree.
reaction label 55: H1 + Ge75_e20 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1481581.939376831 eV vs -1530017. eV!
49. Calculated and tabulated Q values disagree.
reaction label 56: H1 + Ge75_e21 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1534681.939376831 eV vs -1583117. eV!
50. Calculated and tabulated Q values disagree.
reaction label 57: H1 + Ge75_e22 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1567581.939376831 eV vs -1616017. eV!
51. Calculated and tabulated Q values disagree.
reaction label 58: H1 + Ge75_e23 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1585411.939376831 eV vs -1633847. eV!
52. Calculated and tabulated Q values disagree.
reaction label 59: H1 + Ge75_e24 (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1601681.939376831 eV vs -1650117. eV!
53. Calculated and tabulated Q values disagree.
reaction label 60: H1 + (Ge75_c -> Ge75 + gamma) (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: -1602681.939376831 eV vs -1651117. eV!
54. Calculated and tabulated Q values disagree.
reaction label 72: As76 + gamma (Error # 0): Q mismatch
- WARNING: Calculated and tabulated Q-values disagree: 7343438.978942871 eV vs 7329602. eV!

55. Calculated and tabulated Q values disagree.
reaction label 73: n + He4 + Ga71 + gamma (Error # 0): Q mismatch

WARNING: Calculated and tabulated Q-values disagree: -5278154.077537537 eV vs -5319528. eV!

56. If an outgoing energy distribution ends with more than one energy with probability=0, proper unitbase treatment is unclear. Distribution should end with exactly one P=0 point.
reaction label 73: n + He4 + Ga71 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): extraOutgoingEnergy

WARNING: Extra zero-probability outgoing energies found at incident energy 9.e6 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 1.e7 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 1.1e7 eV
WARNING: Extra zero-probability outgoing energies found at incident energy 1.2e7 eV
... plus 8 more instances of this message

• njoy2012 Warnings:

1. Recoil is not given, so one-particle recoil approximation used.
heatr...prompt kerma (0): HEATR/hinit (4)

---message from hinit---mf6, mt102 does not give recoil za= 33076
photon momentum recoil used.

• xsctplotter Errors:

1. Level energy in gamma data doesn't match level energy in cross section data
(Error # 2): Level mismatch (d)

WARNING: MT602 MF12 level energy 139690. eV differs from MF3 value 139690. eV. Setting to MF3 value.

2. Level energy in gamma data doesn't match level energy in cross section data
(Error # 3): Level mismatch (d)

WARNING: MT603 MF12 level energy 192180. eV differs from MF3 value 192180. eV. Setting to MF3 value.

3. Level energy in gamma data doesn't match level energy in cross section data
(Error # 4): Level mismatch (d)

WARNING: MT604 MF12 level energy 199890. eV differs from MF3 value 199890. eV. Setting to MF3 value.

4. Level energy in gamma data doesn't match level energy in cross section data
(Error # 5): Level mismatch (d)

WARNING: MT605 MF12 level energy 253100. eV differs from MF3 value 253100. eV. Setting to MF3 value.

5. Level energy in gamma data doesn't match level energy in cross section data
(Error # 6): Level mismatch (d)

WARNING: MT606 MF12 level energy 316850. eV differs from MF3 value 316850. eV. Setting to MF3 value.

6. Level energy in gamma data doesn't match level energy in cross section data
(Error # 7): Level mismatch (d)

- WARNING: MT607 MF12 level energy 457050. eV differs from MF3 value 457050. eV. Setting to MF3 value.
7. Level energy in gamma data doesn't match level energy in cross section data
(Error # 8): *Level mismatch (d)*
- WARNING: MT610 MF12 level energy 6.51e5 eV differs from MF3 value 650999.8 eV. Setting to MF3 value.
8. Level energy in gamma data doesn't match level energy in cross section data
(Error # 9): *Level mismatch (d)*
- WARNING: MT611 MF12 level energy 673650. eV differs from MF3 value 673649.8 eV. Setting to MF3 value.
9. Level energy in gamma data doesn't match level energy in cross section data
(Error # 10): *Level mismatch (d)*
- WARNING: MT612 MF12 level energy 762100. eV differs from MF3 value 762099.8 eV. Setting to MF3 value.
10. Level energy in gamma data doesn't match level energy in cross section data
(Error # 11): *Level mismatch (d)*
- WARNING: MT613 MF12 level energy 885460. eV differs from MF3 value 885459.8 eV. Setting to MF3 value.
11. Level energy in gamma data doesn't match level energy in cross section data
(Error # 12): *Level mismatch (d)*
- WARNING: MT614 MF12 level energy 901300. eV differs from MF3 value 901299.8 eV. Setting to MF3 value.
12. Level energy in gamma data doesn't match level energy in cross section data
(Error # 13): *Level mismatch (d)*
- WARNING: MT615 MF12 level energy 947200. eV differs from MF3 value 947199.8 eV. Setting to MF3 value.
13. Level energy in gamma data doesn't match level energy in cross section data
(Error # 14): *Level mismatch (d)*
- WARNING: MT616 MF12 level energy 986800. eV differs from MF3 value 986799.8 eV. Setting to MF3 value.
14. Level energy in gamma data doesn't match level energy in cross section data
(Error # 15): *Level mismatch (d)*
- WARNING: MT617 MF12 level energy 1062200. eV differs from MF3 value 1062199.8 eV. Setting to MF3 value.
15. Level energy in gamma data doesn't match level energy in cross section data
(Error # 16): *Level mismatch (d)*
- WARNING: MT618 MF12 level energy 1080600. eV differs from MF3 value 1080599.8 eV. Setting to MF3 value.
16. Level energy in gamma data doesn't match level energy in cross section data
(Error # 17): *Level mismatch (d)*
- WARNING: MT619 MF12 level energy 1.128e6 eV differs from MF3 value 1127999.8 eV. Setting to MF3 value.
17. Level energy in gamma data doesn't match level energy in cross section data
(Error # 18): *Level mismatch (d)*
- WARNING: MT620 MF12 level energy 1136900. eV differs from MF3 value 1136899.8 eV. Setting to MF3 value.

18. Level energy in gamma data doesn't match level energy in cross section data
(Error # 19): *Level mismatch (d)*

WARNING: MT621 MF12 level energy 1.19e6 eV differs from MF3 value 1189999.8 eV. Setting to MF3 value.

19. Level energy in gamma data doesn't match level energy in cross section data
(Error # 20): *Level mismatch (d)*

WARNING: MT622 MF12 level energy 1222900. eV differs from MF3 value 1222899.8 eV. Setting to MF3 value.

20. Level energy in gamma data doesn't match level energy in cross section data
(Error # 21): *Level mismatch (d)*

WARNING: MT623 MF12 level energy 1240730. eV differs from MF3 value 1240729.8 eV. Setting to MF3 value.

21. Level energy in gamma data doesn't match level energy in cross section data
(Error # 22): *Level mismatch (d)*

WARNING: MT624 MF12 level energy 1.257e6 eV differs from MF3 value 1256999.8 eV. Setting to MF3 value.

22. Level energy in gamma data doesn't match level energy in cross section data
(Error # 23): *Level mismatch (d)*

WARNING: MT807 MF12 level energy 208450. eV differs from MF3 value 208449.7 eV. Setting to MF3 value.

23. Level energy in gamma data doesn't match level energy in cross section data
(Error # 24): *Level mismatch (d)*

WARNING: MT808 MF12 level energy 228860. eV differs from MF3 value 228859.7 eV. Setting to MF3 value.

24. Level energy in gamma data doesn't match level energy in cross section data
(Error # 25): *Level mismatch (d)*

WARNING: MT809 MF12 level energy 248940. eV differs from MF3 value 248939.7 eV. Setting to MF3 value.